

Homework 12

(48 points)

“Tardiness Bounds under Global EDF Scheduling on a Multiprocessor”

1. What are the primary contributions of this paper? Give bullet points. (2 points)
2. How would you summarize the work that was done on this topic between the paper by Dhall and Liu and this paper? (6 points)
3. What results are shown in Figure 5 (a)-(f)? What general trends do you observe? (6 points)
4. What results are shown in Figure 5 (g)-(i)? (4 points)
5. If you were to run experiments with the presented algorithms, what is one experiment that you would run? What would you include in a figure presenting those results? Do you have a prediction about what you would observe? (8 points)

“A Dynamic Priority Assignment Technique for Streams with (m, k) -Firm Deadlines”

6. What are the primary contributions of this paper? Give bullet points. (2 points)
7. Describe the type of real-world application that is the focus of this paper. How does an (m, k) -firm specification match the requirements of these tasks? (4 points)
8. How are the notions of a maximum allowable loss rate and (m, k) -firm deadlines related? Give two (m, k) -firm specifications that correspond to a 15% maximum allowable loss rate. (8 points)

“Verifying Weakly-Hard Real-Time Properties of Traffic Streams in Switched Networks”

9. What are the primary contributions of this paper? Give bullet points. (2 points)
10. What are the resources handled in this approach? (2 points)
11. How does this paper build on prior work? (4 points)

Feedback

1. How much time did you spend completing this assignment (ignoring interruptions)?
2. How much time did you spend doing the assigned reading (ignoring interruptions)?
3. Any other feedback?